SPRING, BRIERY, LITTLE SANDY & SAYLERS CREEKS AND BUSH RIVER WATERSHED

Project Location and Background

The Spring Creek, Briery Creek, Little Creek, Saylers Creek, and Bush River watersheds encompass a total of 137,100 acres located primarily in Prince Edward County, Virginia with a small portion of the headwaters of the Saylers Creek watershed located in Amelia and Nottoway Counties. All waterbodies were listed as impaired on Virginia's *2002 Section 303(d) Total Maximum Daily Load (TMDL) Priority List and Report* due to violations of the state's water quality standards for fecal coliform bacteria. TMDLs were developed for the watersheds as part of the Appomattox River Basin TMDL approved in August 2004. The implementation plan specific to these watersheds was approved April 2009.

The Piedmont Soil and Water Conservation District (PSWCD) administered a successful grant-funded implementation project from 2006 to 2015 to provide cost-share on agricultural BMPs and mitigate bacterial pollution from those sources. Recognizing the need to address residential septic sources of bacteria, PSWCD has since partnered with local organizations including the Prince Edward County Health Department to administer a program to provide financial assistance for the implementation of residential septic BMPs in these watersheds.

Implementation Highlights

The table to the right shows overall goals and BMPs implemented since the original implementation project began in August 2006 and overall implementation goals for the project area. Though targeted funding for agricultural BMPs expired, PSWCD continues to apply other funding sources to agricultural implementation in these watersheds. So far, over 57 miles of stream exclusion fencing has been installed, and over 10 miles of stream fencing has been maintained in the watershed.

(*continued on page 2*).

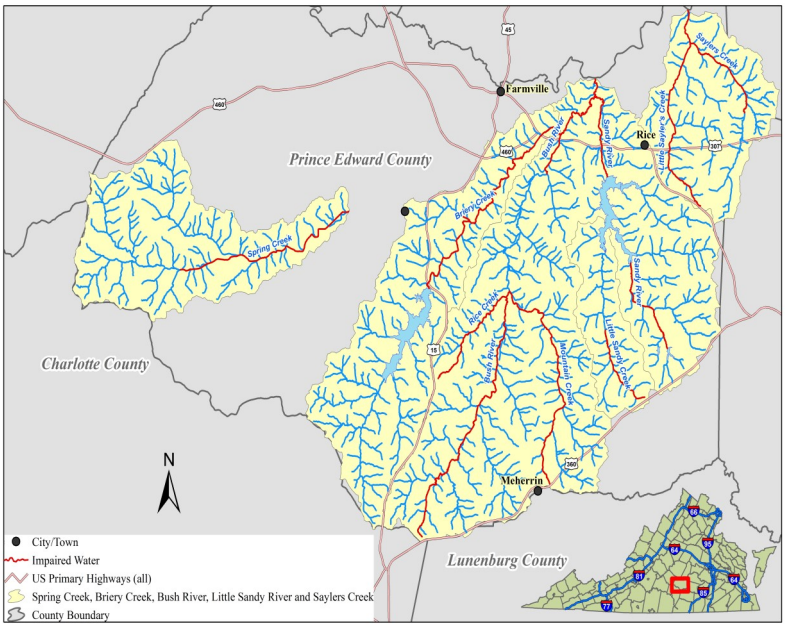


Table 1: Spring, Briery, Bush, Little Sandy, & Saylers Creeks and Bush River Watershed BMP Summary: August 2006– June 2019

Control Measure	Units	Goal	Installed	%
Agricultural				
Stream Exclusion Fencing	F	197,518	300,675	152
Stream Exclusion Fencing	S	169	155	92
Improved Pasture Management	A	5,595	74	1
Streamside Fence Maintenance	F	10,748	57,278	532
Loafing Lot Management	S	1	2	200
Riparian Buffers	A	6	327	5,450
Residential Septic				
Septic Tank Pump-out	S	N/A	59	N/A
Septic System Repair	S	151	6	4
Septic System Installation	S	357	21	6
Alternative Waste Treatment System	S	28	4	14
Pet Waste				
Pet Waste Station	S	1	0	0
Pet Waste Composter	S	1,038	0	0

A = Acres, F = Linear Feet, S = System; Note: BMP counts only include 319-funded and state VACS. NRCS EQIP funded practices are not included.
*Corrections have been made to numbers of installed BMPs provided in previous annual reports.

The Virginia Nonpoint Source Management Program: The Virginia NPS Management Program is managed by the Virginia Department of Environmental Quality (DEQ) and is funded, in part, through grants from the U.S. Environmental Protection Agency, under the Clean Water Act Section 319(h). For more information regarding Virginia's Nonpoint Source Management Program, please visit us on the web at: http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/NonpointSourcePollutionManagement.aspx . An electronic copy of this report can be found here: http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLImplementation/TMDLImplementationProjects.aspx General NPS Program questions? email: npsgrants@deq.virginia.gov

Implementation Highlights - Continued

From July 2018 through June 2019, 132 acres were planted under small grain and mixed cover crop and 4,124 linear feet of livestock exclusion fencing was installed. Also, 20,799 feet of stream fencing was maintained. In that same period, the residential septic program funded 18 septic pump-outs, one septic tank system installation/replacement, and two alternative waste treatment systems. PSWCD sent targeted mailings, hosted outreach meetings, and worked with contractors to increase residents' participation.

Bacteria reductions resulting from BMP installations are summarized in Table 2.

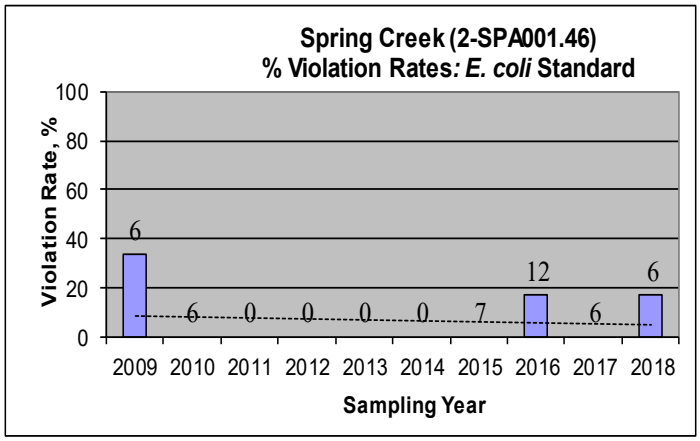
Period	Pathogens (Coliform) (CFU)
July 2006—June 2019	1.21E+16

Table 2: Pollution Reduction for Spring, Briery, Little, & Saylers Creeks and Bush River watersheds

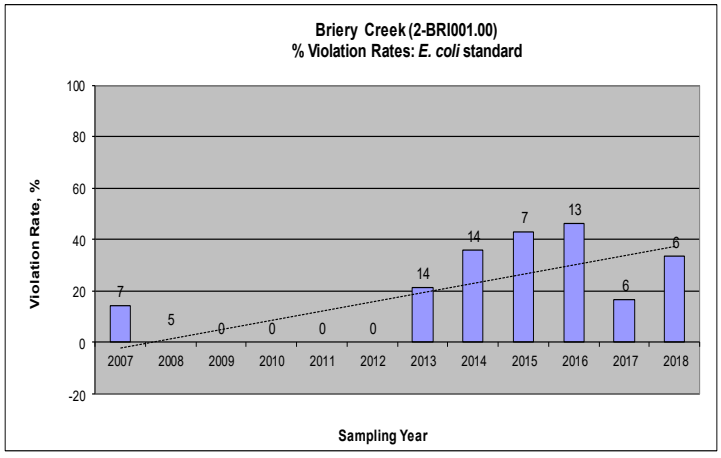
Water Quality Monitoring Results

Water quality data collected by DEQ for the period of January 2009 through December 2018 in Spring Creek and January 2007 through December 2018 in Briery Creek were analyzed to determine the impact of BMPs implemented in the project area on *E. coli* violation rates and associated long-term trends, if any, in water quality.

The bar graphs at right show the percent violation rate for samples collected at monitoring stations 2 -SPA001.46 and 2-BRI001.00, which did not meet the water quality standard of 235 cfu/100 mL. The number of samples collected each year is shown above each bar. The linear regression fitted to the data shows a slight decrease in bacteria violation rates over the sampling period in Spring Creek, indicating possible water quality improvement. The regression line fitted to the Briery Creek data suggests an increase in violation rates, suggesting possible decline in water quality. More consistent monitoring over a longer period of time is needed to confirm these water quality changes.



Graph 1: *E. coli* data for Spring Creek (2-SPA001.46), 2009-2018



Graph 2: *E. coli* data for Briery Creek (2-BRI001.00), 2007-2018

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